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HOSPITAL BUILDING NOTE

RESIDENTIAL ACCOMMODATION FOR STAFF

24

Department of Health and Social Security: London

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Hospital Building Note

Number 24

Residential Accommodation for Staff

Contents

I Scope.

II General considerations.

III Scales of accommodation.

IV Plans illustrating scales of accommodation.

V Engineering services

Appendices I and II.

Building Notes recommend the standards of accommodation and services for hospital departments which the Ministry of Health considers it reasonable to provide. Each Building Note contains a Cost Note from which may be derived a Departmental Cost Allowance appropriate to the department. Hospital Boards are at liberty to depart from the design recommendations given in Building Notes provided that they are satisfied that the standards of accommodation and services they adopt are adequate. The Departmental Cost Allowance, however, is to be regarded as the maximum sum of money available for the department and it should not be exceeded. Hospital Boards are encouraged to produce designs for the provision of appropriate accommodation and services at a cost less than the Departmental Cost Allowance.

An addendum to Appendix E of Hospital Building Note No. 2, *The Cost of Hospital Buildings*, which sets out cost recommendations for Residential Accommodation for Staff, is supplied with this Building Note.

I. Scope

1. This Building Note gives guidance on the scale and design of accommodation for all staff who are required to be resident. It supersedes existing recommendations on accommodation for nursing staff (Building Note No. 7 and Building Bulletin No. 2).

II. General considerations

2. Recent cost studies by the Building Research Station strongly suggest that the kind of accommodation traditionally provided, such as the "nurses' home", is not the most suitable way of housing resident staff. Too often in the past the staff accommodation has been treated, both in design and construction, as if its function were that of a hospital department rather than that of providing good living conditions for staff. Standards have been related not to housing standards in the community as a whole but to the standards set for the remainder of the hospital. Accommodation of this kind has been unnecessarily expensive and not that best suited to the needs and wishes of the staff themselves.

3. This Note does not seek to reduce the standard of amenity below that which is at present being provided. Indeed, for nursing staff it takes as a starting point the space standards set out in Building Note No. 7. What it does seek to show is that equivalent (or better) standards can be achieved more economically and in a more flexible form if this is approached as a "housing" problem rather than a "hospital" problem.

Scale of provision

4. The bulk of accommodation will be required for nursing staff. There is, however, no inherent necessity for nurses to be provided with board and lodging in hospital and the clear preference of most of the staff is for non-residence. It is generally of advantage both to nurses and to the hospital service if they live as ordinary members of the community like those in other professions and occupations. The general policy for all grades of staff—nursing, medical, administrative, etc., will be to require them to reside in accommodation at or near the hospital only where the needs of the service, or in the case of staff in training, their welfare, make this necessary.

5. In outlining plans for providing staff accommodation, hospital authorities will need to review their prospective complements and decide on the need for accommodation for each grade of staff. Broadly, the planned figures will be made up as follows:

(i) Student and pupil nurses undergoing basic training to whom permission to be non-resident is not given—normally two years' planned intake of students and one year's planned intake of pupils will be the maximum requirement.

(ii) A proportion of qualified nurses undergoing post-certificate training, and of pupil midwives—to the extent required by their training and duties.

(iii) A proportion of qualified whole-time nurses on the staff of the hospital—for operational purposes up to one-third of the planned complement may need to be accommodated, normally excluding administrative and teaching staff.

(iv) A small element of administrative and domestic staff and one or more senior engineers.

(v) A high proportion of house officers and registrars and a necessary minimum of more senior medical staff.

6. In addition, hospital authorities may find it necessary exceptionally to provide accommodation for nursing staff not covered by these criteria, because other accommodation is not available within reasonable distance of the hospital. Generally, such accommodation will be provided away from the hospital—so that surpluses may more readily be disposed of—but the use of vacancies in other accommodation is not excluded.

7. Those staff (including students and pupil nurses) required to live on the hospital premises will be either

(*a*) provided with hostel accommodation with full board and lodging (with laundry services) for which they will be liable to pay the charges laid down by the Whitley Council;

(*b*) allocated, on a rental basis, accommodation provided by the hospital in which they will live privately, undertaking their own "housekeeping" services, including catering. The rental to be paid (plus charges for any services provided such as hot water, electricity, furniture) will be determined in the appropriate manner laid down by the Department in its memoranda on rentals.

8. Estimates of accommodation should be framed on this assumption. They should err on the side of caution and potential expansion taken account of in drafting the development plan of the hospital.

Type of accommodation

9. The numbers of staff who are required to live in accommodation at or near the hospital may vary considerably over time. It is therefore important that the accommodation should be such that it can be disposed of if no longer required by the hospital. In the case of accommodation outside the curtilage of the hospital, this is an obvious precaution to take.

Even within the hospital grounds, however, consideration should be given to this possibility in deciding on the type and location of the accommodation.

10. Similarly there may be variations from time to time in the grades of staff requiring accommodation and in their status (e.g. single, or married, or with dependants). Furthermore, there may well be variation in the numbers wishing to rent accommodation rather than "live in" and pay board and lodging charges. It is therefore important that the accommodation should be designed so that changes in occupancy can be simply achieved. It cannot be over-emphasised that housing designed in detail for one particular grade or group of staff is uneconomic.

11. There are a number of ways of achieving this flexibility of use, consistent with suitable standards of amenity and economy of construction. For example, it might be possible to build, where plenty of land was available, bungalows or houses, or alternatively to adapt houses in the vicinity of the hospital. Such accommodation may not be very flexible for later changes in type, and distribution of services and external works may be more costly, and this should be taken into account in the early stages of design. However, this type of accommodation may be preferred for staff with families, including children. Guidance on housing standards is given in the Ministry of Housing and Local Government's publication "Homes for Today and Tomorrow".

12. Another method (and one which is likely to have greater applicability in the hospital field) is to adapt for hospital purposes the various types of flats which are being widely used by local housing authorities in this country. This solution is described in detail in Part III of this Note. Its main advantages over the more traditional type of "nurses' home" development are:

(i) that, compared with the areas suggested in B.N. No. 7, it can be made to provide higher overall space standards for the various grades of staff;

(ii) that the accommodation can be made more "domestic" in character with larger living spaces and fewer communal facilities;

(iii) that it provides substantial flexibility of use between different grades of staff;

(iv) that it provides an asset which is easily disposed of if no longer required;

(v) that advantage can be taken of the industrialised methods of construction* which are becoming increasingly employed in local authority housing projects, with consequent saving in time;

(vi) that a saving can be made on cost compared with that for a "one-off" nurses' home.

13. It is recognised that certain standards associated with local authority flats would not be adequate for hospital purposes. For example, sound insulation which is suitable for a flat designed for family occupation may not be suitable where the flat is to be used by several members of the staff. A certain amount of upgrading of physical standards is therefore necessary (see para. 40 below). This can still be contained within a cost significantly lower than that appropriate for more traditional types of building.

Siting

14. The siting of residential accommodation should be carefully considered in the context of a development plan for the whole hospital. Part of it, at least, should lie near the boundary of the site so that it could be disposed of if no longer required. Ideally, it should be in a reasonably quiet position and, for students or others on board and lodging terms, the staff dining rooms should be reasonably accessible. The accommodation used by medical staff should, if possible, have convenient access to the wards and the accident and emergency department. The residential accommodation should not be so dispersed that common facilities are duplicated.

15. There should be adequate parking space for the vehicles of resident staff. Car parks may be provided on the basis of one to every self-contained flat, whether the accommodation is occupied singly or shared. Where site conditions permit, some outside play space (enclosed for safety from the danger of hospital traffic), should be provided for the children of married staff, and also a small area for pram storage. The National Playing Fields Association, Playfield House, 57B, Catherine Place, London, S.W.1, would be pleased to advise on the design and layout of a children's playground and in some circumstances the Association might be able to offer grant aid. In places where reasonable garage accommodation does not exist locally, covered accommodation may be provided for up to two-thirds of the car parking spaces stated above, in association with the residential accommodation, provided the Board are satisfied that a demand exists and subject to a rent being charged (which is calculated in the same manner as the rent for the accommodation). Garages or car ports may be provided. Garages must be built in blocks, not singly, and to the standards normally used by local housing authorities.

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*Proposals for preferred dimensions for such methods of construction are described in the Ministry of Housing and Local Government Design Bulletin No. 8, Dimensions and components for housing with special reference to industrialised building. See also the Ministry of Public Building and Works publications, D.C.1 and D.C.2, Dimensional Co-ordination for Industrialised Building.

III. Scales of accommodation

16. To illustrate the way in which blocks of flats can be adapted for use by the grades of hospital staff requiring accommodation, two designs commonly used by local authorities are examined in detail below. The first is a three-storey block of three-bedroom flats: the second a tower block of one-, two- and three-bedroom flats. The latter type of development is considerably more expensive to build than the former and will be approved only where limitations of site or other exceptional circumstances make the lower blocks impracticable.

Functional unit

17. Cost allowances for various scales of accommodation are given in Appendix E to Building Note No. 2 attached. The functional unit will be the unit of accommodation provided for each person according to the scales described below. Where married staff, or staff with dependants, are provided with accommodation of a scale applicable to a higher grade the functional unit should be taken as that of the higher grade.

18. It is recommended that there should be six scales of accommodation. These are related to the grades of staff in Appendix I. Three categories—A, B and C, are not self-contained, i.e. there is sharing of facilities such as bathrooms and kitchens, while categories D, E and F are self-contained. Appendix II shows the basic accommodation for each grade of staff. The plans on pages 5, 6, 7, 8, 9 of this Note illustrate arrangements which facilitate alternative uses of the three-bedroom flat, and also suitable layouts for the one- and two-bedroom flats. Variations to the sizes and layout of basic accommodation can be made provided that these variations do not invalidate the principles described in para. 11, and that the cost limit for basic accommodation is not exceeded.

A. Basic accommodation

A list of the basic accommodation is given in Appendix II.

19. *Scale A* is for student nurses, domestic staff and other junior groups of staff paying similar board and lodging charges. Each person requires a separate bed-sitting room for sleeping, studying, reading, writing, etc., with washing facilities. There should be a built-in wardrobe in which to keep clothes and other personal belongings. One bath (or shower), one w.c. and one kitchen utility room should be provided for every four to six persons. In addition there should be some provision for the storage of boxes and cleaners' equipment.

20. This Note assumes the provision of central common rooms on the scale of 10/20 sq. ft. per person, the higher rate to be used for small numbers of staff (e.g. for 20 people 400 sq. ft. might be provided, whilst for 100 people 1,200 sq. ft. should suffice). For the purposes of this calculation different categories of staff (e.g. student nurses, domestics, etc.) should be treated separately and not combined to form a total number. In assessing the total common room provision all the staff in one category should, however, be combined irrespective of whether they are living in one or more blocks. Common room provision may be provided in a number of ways—e.g. one or two small rooms—one of which might be used as a reception room for visitors—together with a larger central room for group activities and dancing.

21. Other central provision includes laundry reception and a visitors' cloakroom; an office for the warden or clerk near the common rooms and the visitors' room. This accommodation is intended to provide facilities for the site as a whole and only one warden or clerk will be required. The G.P.O. collecting and delivery point should be situated near the warden's office.

22. *Scale B* is suitable for staff nurses, house officers and other grades of staff paying similar board and lodging charges, also for pupil midwives. Each should have a separate bed-sitting room with a lavatory basin. One bathroom and w.c. and one kitchen utility room should be provided for every 3–4 persons. There should also be storage for boxes and cleaners' materials. Instead of a central common room a smaller sitting-room shared between a few staff should be provided. Central provision should be made for laundry reception. This can be combined with that for scales A and C.

23. *Scale C* is suitable for sisters, senior house officers and others who pay similar board and lodging charges. Each person should be provided with a bedroom (with a lavatory basin) and a living room; a bath, w.c. and kitchen facilities should be shared between two. Provision should also be made for storing cleaning equipment and boxes. Central provision should be made for laundry reception which should be combined with that for scales A and B.

24. *Scale D* is for deputy and assistant matrons, registrars and others paying similar board and lodging charges. Each should be provided with a small self-contained flat consisting of bedroom and living-room, bathroom, w.c. and kitchen.

25. *Scale E* is for matron and other senior staff paying similar board and lodging charges. Each person should be provided with a self-contained 4-room flat. This type of accommodation will also serve for some married staff, required to be resident, who have families or dependants living with them.

26. *Scale F* is based on a self-contained 2-bedroom flat. Although this is less adaptable than the other

types of accommodation quoted, a number of such units may be justified to house, e.g., married staff with one child or single staff with a dependant. Staff of this sort would be occupying the accommodation on a rental basis.

27. In paragraphs 19–25 above, grades of staff are grouped in relation to the board and lodging charges which would be payable if they were " living-in ". Some will, however, prefer to rent the accommodation (see paragraph 7). Where staff occupy accommodation on a rental basis, additional kitchen equipment will be required.

B. Additional accommodation

Scales A, B and C

28. In schemes where provision is made for large numbers of staff some or all of the following accommodation may be required:

(*a*) *Central laundry room*

This will be used by all grades of staff but should not be provided where there are fewer than 50 persons. It should be fitted with the appropriate equipment, including washing machines, spin driers, and ironing facilities.

(*b*) *Additional warden's office*

An additional office would be required only where there were exceptionally large numbers of resident staff.

(*c*) *Sick bay*

Where there are at least 100 residents, sick bay facilities should be provided by modifying one 3-bedroom flat for the purpose.

NOTE: Where suitable, one 3-bedroom flat which had been left entirely without the domestic fitments might be used to provide the following accommodation:

Laundry reception

Laundry room

Warden's office

Mail collection and delivery point

Storage accommodation

Alternatively it might be more economical to provide this accommodation together with central common room provision, in a separate single-storey building.

IV. Plans illustrating scales of accommodation

29. It is recommended that the basis for the provision of scales A, B, C and E types of accommodation be a three-bedroom flat (for example see Fig. 1). This comprises a living-room, dining/kitchen, three bedrooms, bathroom, w.c. and store, with a total area of about 800 sq. ft. net (i.e. excluding common access space).

30. Fig. 2 illustrates how some of the partitions can be re-positioned so that the flat can provide accommodation for four student nurses or other junior staff, i.e. Scale A. In the example shown, the centre wall, parallel to the outside window walls, is load bearing, while the cross partitions are non-load bearing. The plan shows the provision of built-in wardrobes and lavatory basins. For Scale A accommodation there should be four persons in a flat sharing kitchen utility room, bathroom and w.c. In the flat there is a small cupboard for cleaning materials. On the staircase landing a boxroom is shown. On other floors this latter space might be utilised for linen.

31. Central common rooms can be provided in another flat or flats in the block (with suitable modification to the internal non-load bearing partitions) or in a separate building. Fig. 3 shows a common room for 20 students, a warden's or clerk's office and kitchen utility. The space normally used for the bathroom could be allocated as a cloakroom for visitors. Laundry reception is shown on the staircase landing.

32. Fig. 2 is also suitable for three staff nurses, house officers, etc. (i.e. Scale B). Three of the four rooms are bed-sitting rooms while the fourth is used as a sitting-room. The three share kitchen, bathroom and w.c.

33. The same plan without alteration of partitions can be used by two sisters or senior house officers (i.e. Scale C). In this case each is provided with a living-room and bedroom. In order to make the accommodation more self-contained it is possible to provide a door across the end of the corridor to make one bedroom and the adjoining living-room self-contained, while the door to the passage of the second bedroom can be fixed shut, and the doors between that room and the middle room opened (see Fig. 4).

34. Fig. 5 shows a self-contained flat with living-room, bedroom, kitchen, bathroom and w.c. used by deputy or assistant matron, etc. (i.e. Scale D).

35. For matron and others entitled to Scale E accommodation, this can be provided in the form of an ordinary flat (i.e. Fig. 1). It is also possible for the plan shown in Fig. 2 to be used.

36. Fig. 6 (Scale F) shows a two-bedroom flat suitable for use as described in paragraph 26 above.

37. Where site conditions necessitate the use of high buildings, the accommodation can be provided in

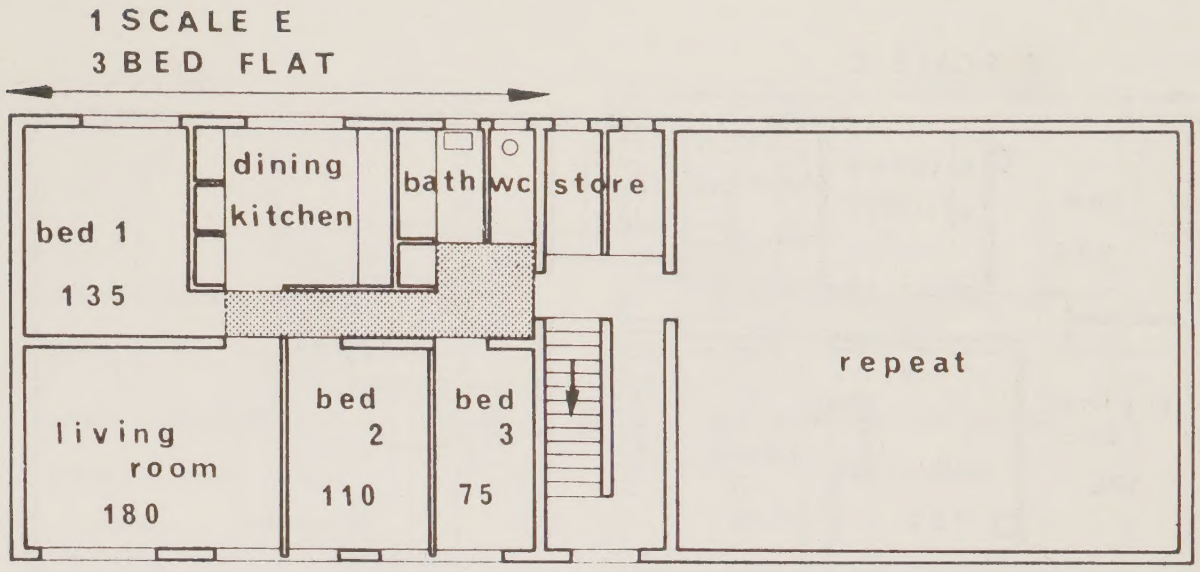


FIGURE 1. Typical floor plan of a 4-room flat in a three-storey staircase access block.

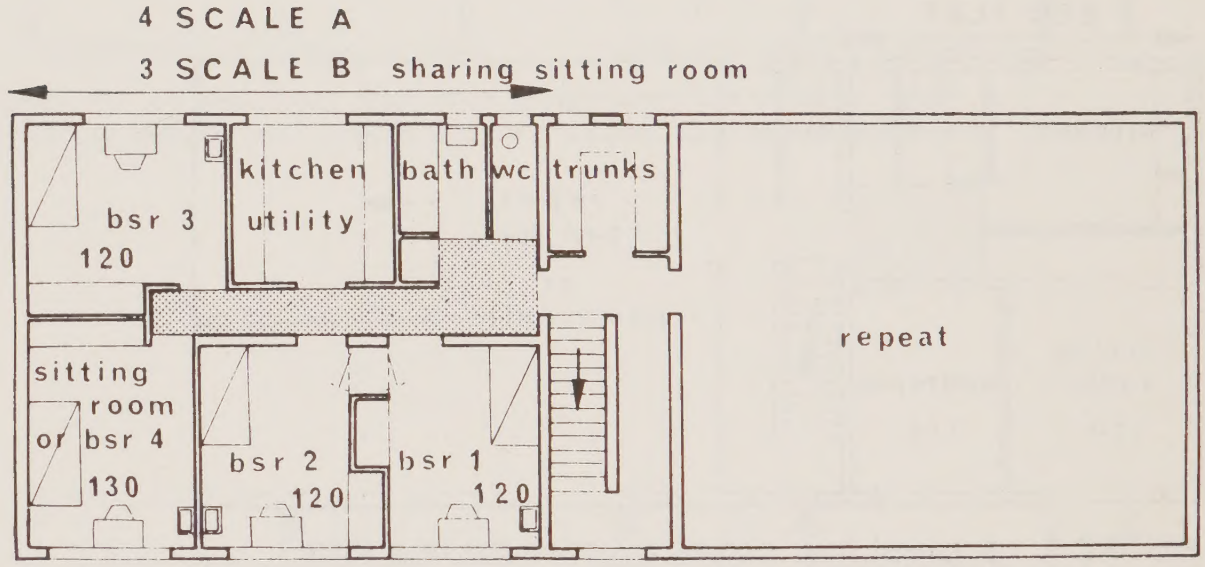


FIGURE 2. A 4-room flat divided to provide 4 bed-sitting rooms.

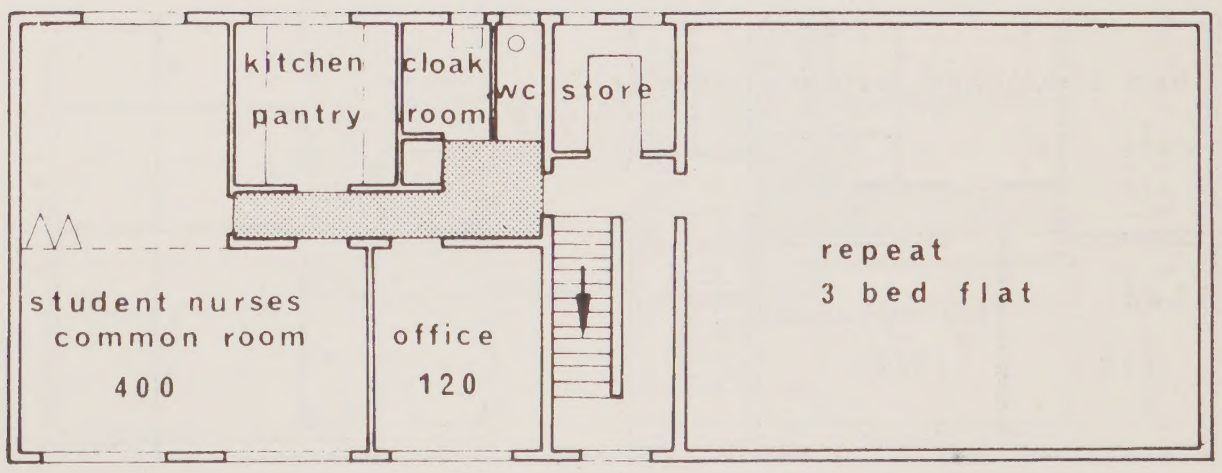


FIGURE 3. A 4-room flat divided to form recreation space and office at ground-floor level.

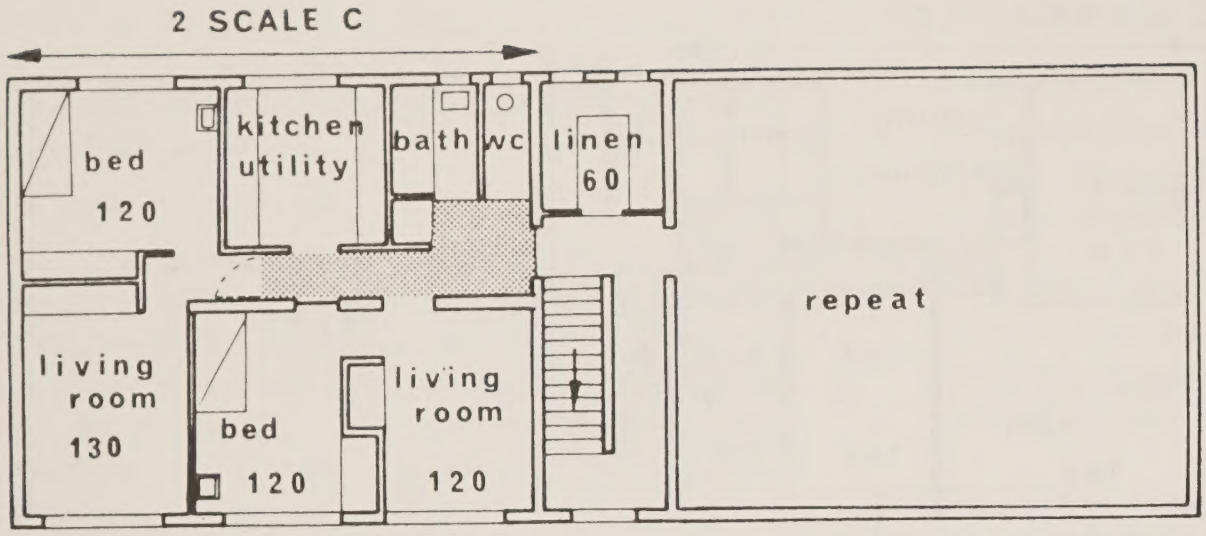


FIGURE 4. A 4-room flat divided to provide two 2-room sets

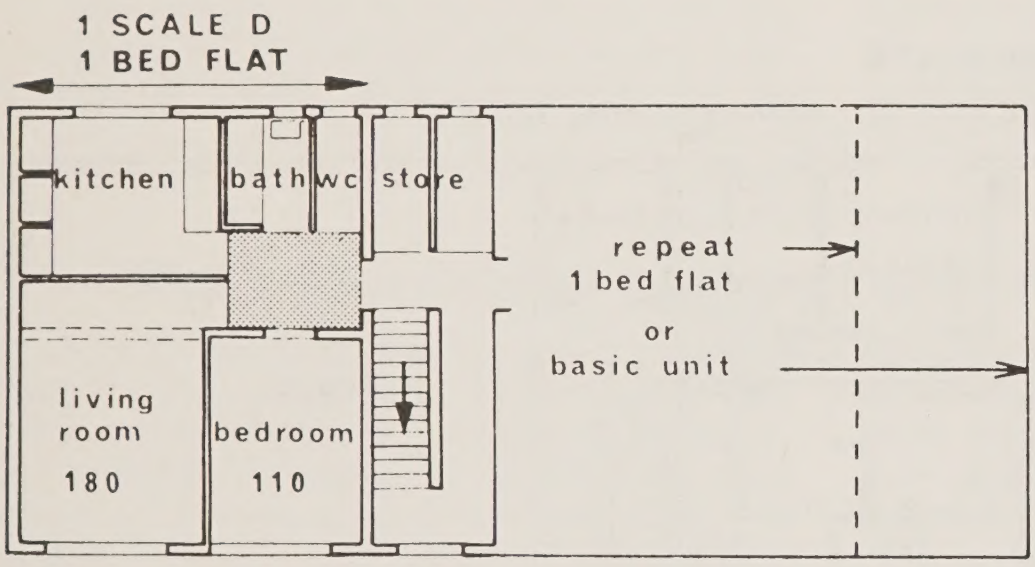


FIGURE 5. A typical floor plan of a 2-room flat in a three-storey staircase access block.

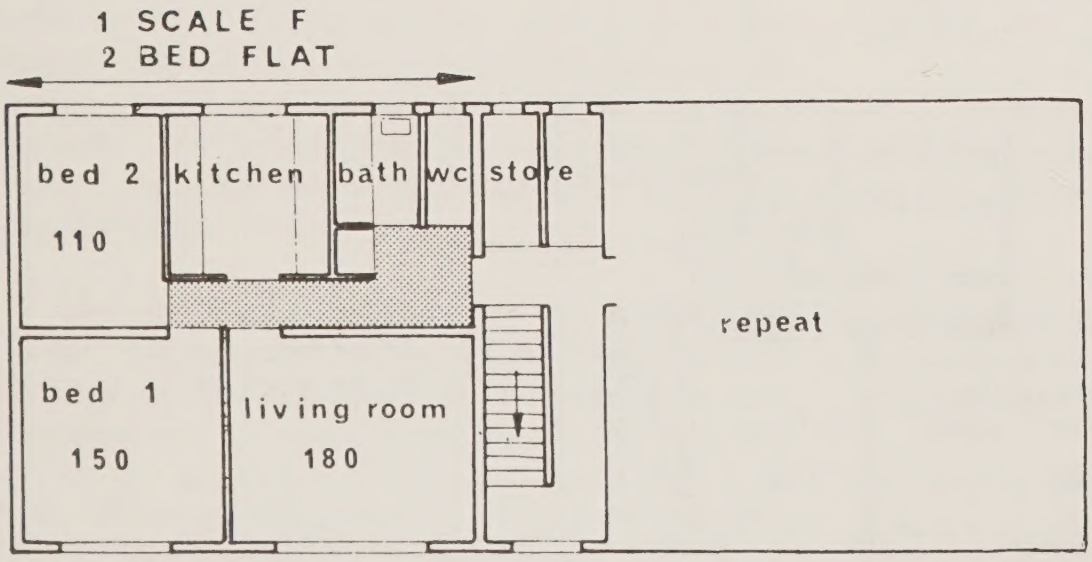


FIGURE 6. A typical floor plan of a 3-room flat in a three-storey staircase access block.

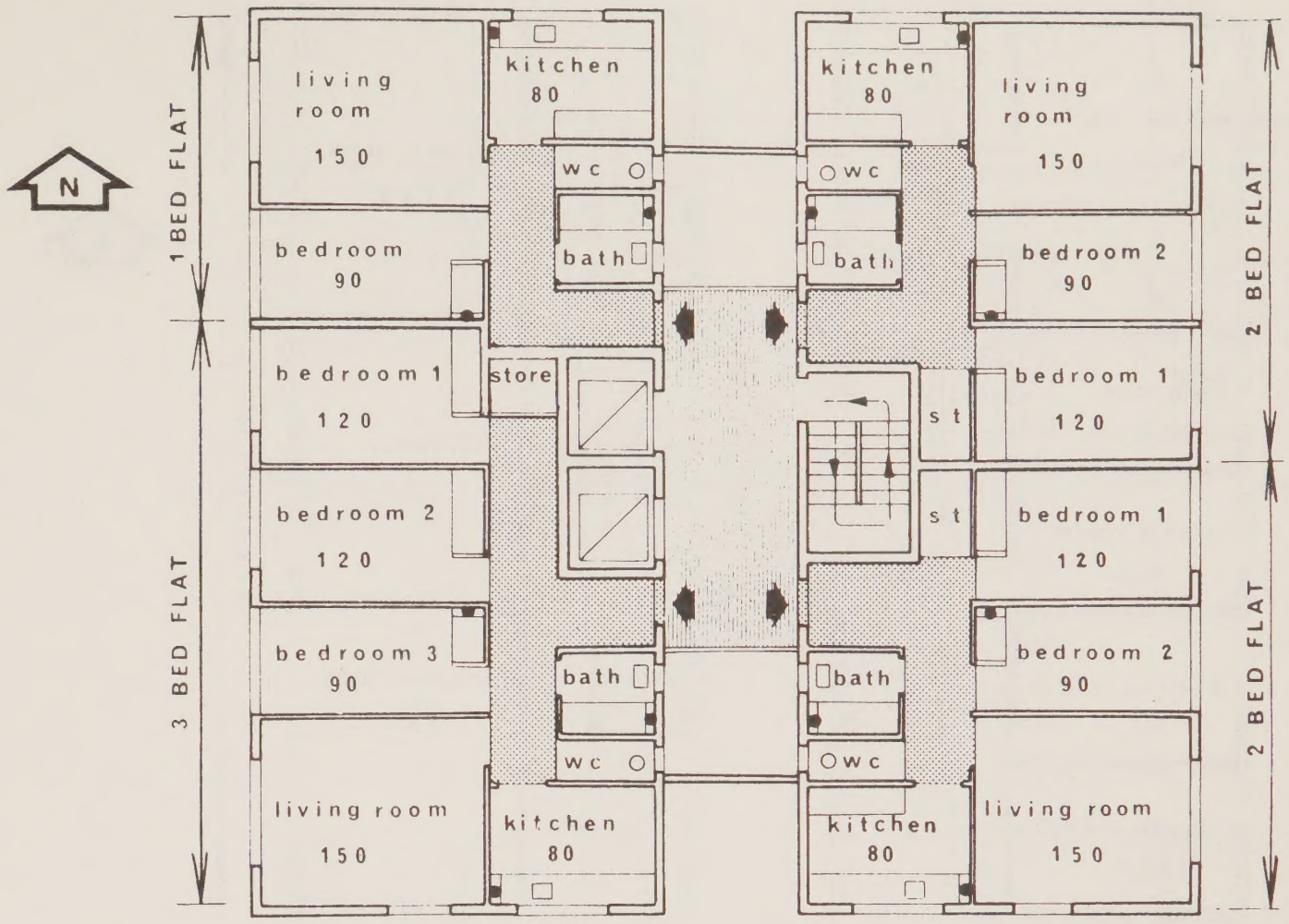


FIGURE 7. Typical floor plan of a multi-storey tower block with four 3-room flats or two 2-room and two 4-room flats on each floor.

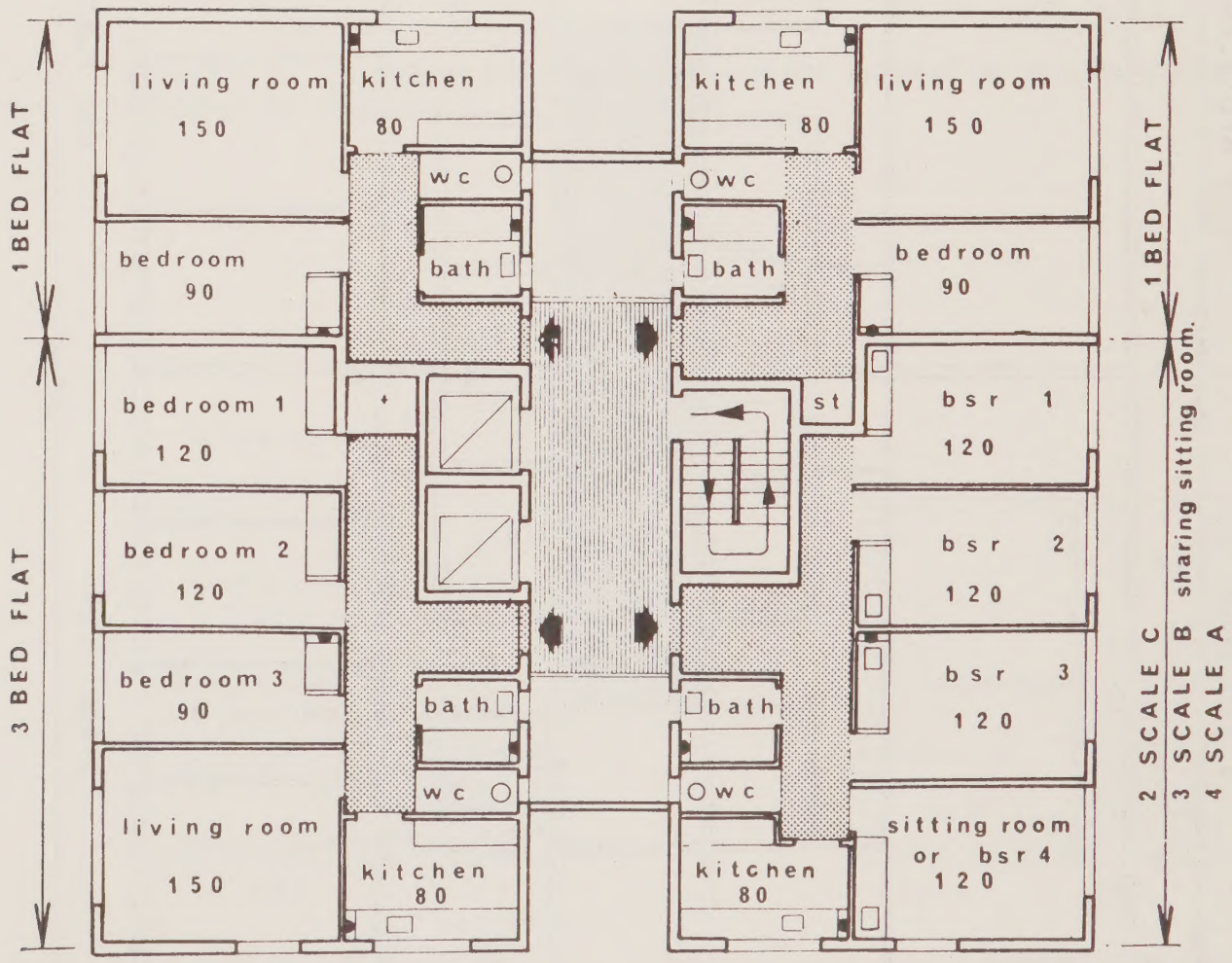


FIGURE 8. Typical floor plan of a multi-storey block showing a 4-room flat divided to provide 4 bed-sitting rooms.

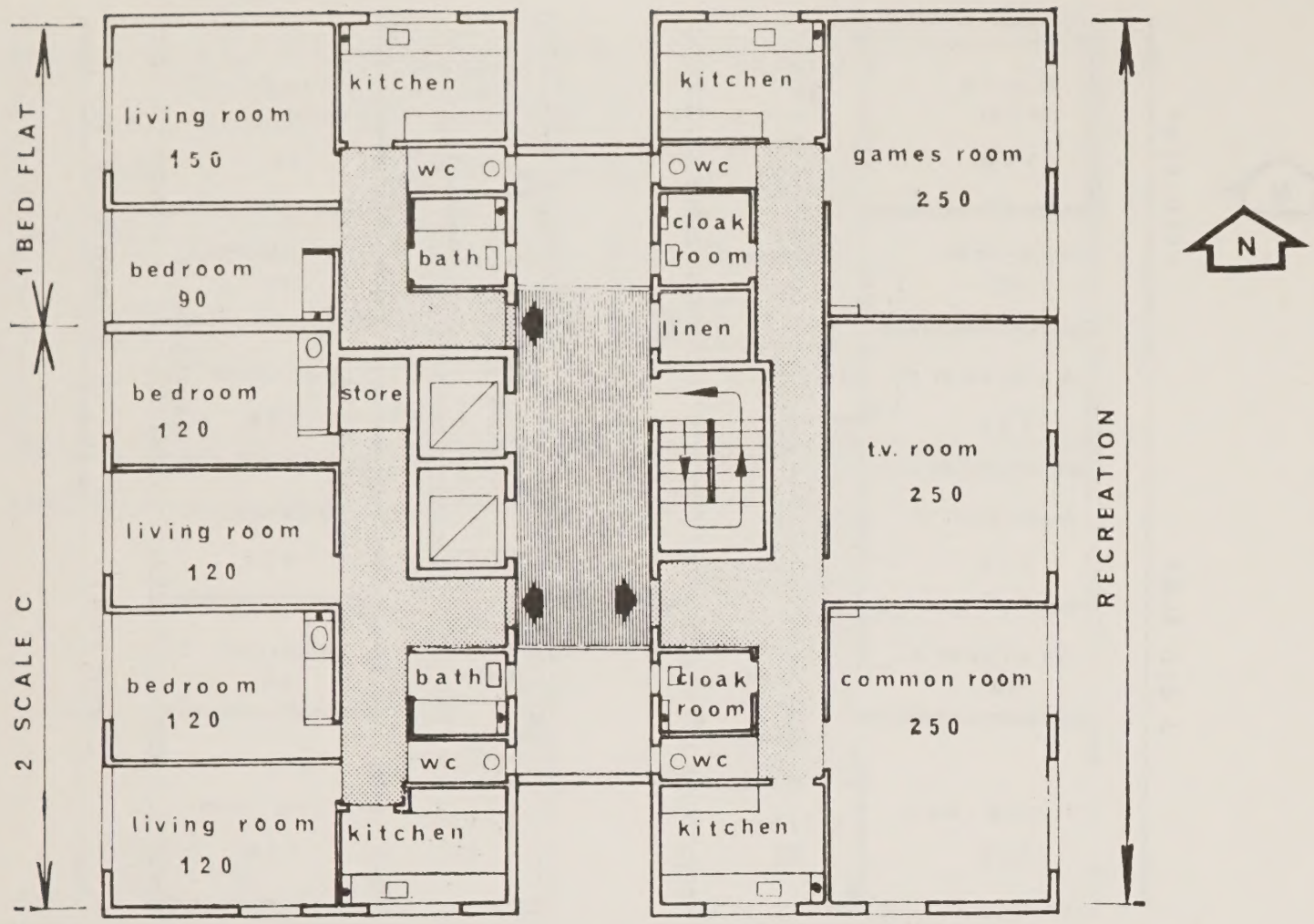


FIGURE 9. A typical floor plan of a multi-storey block showing a 4-room flat divided to provide two 2-room sets, and half a floor divided to form recreation space.

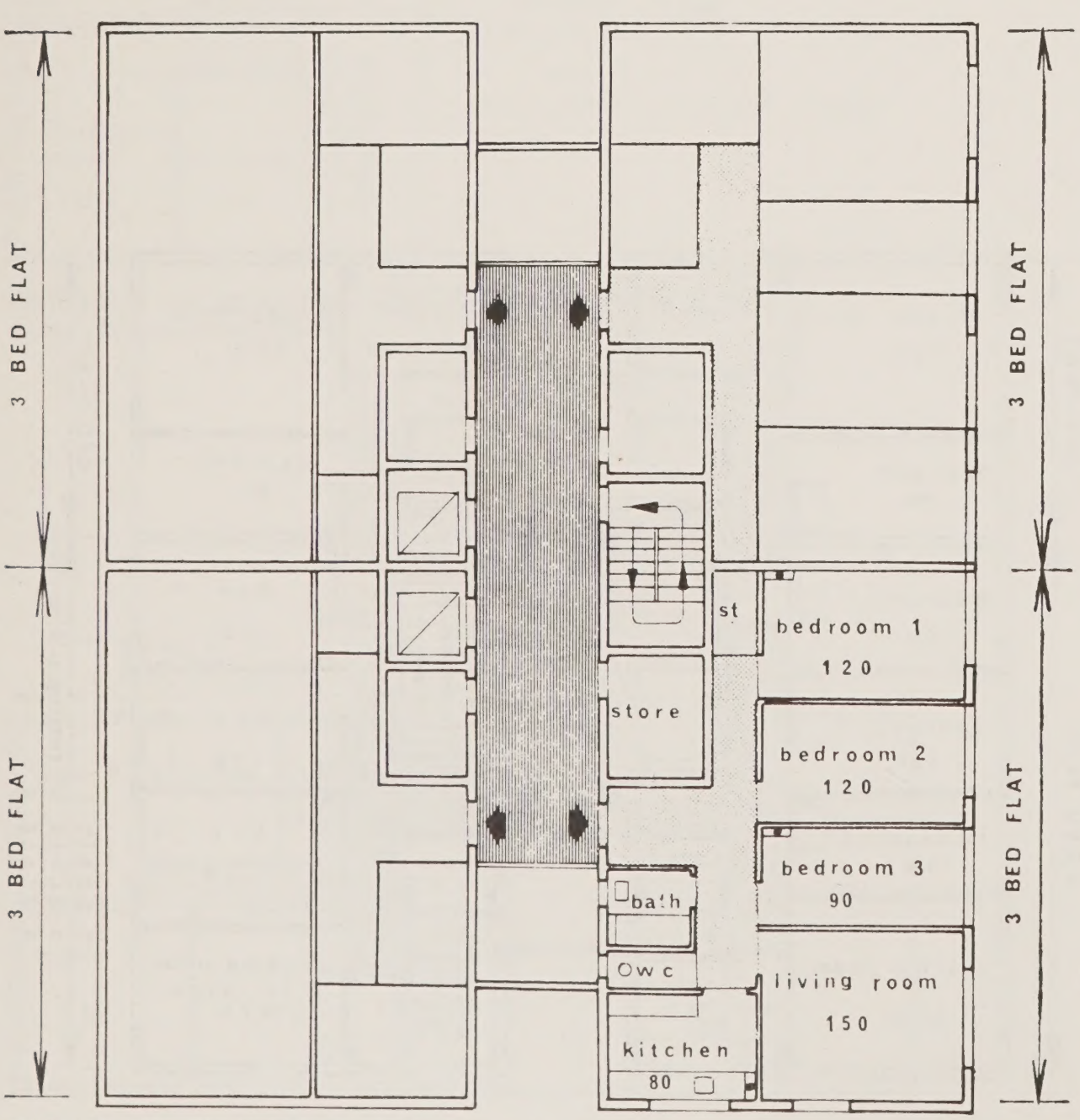
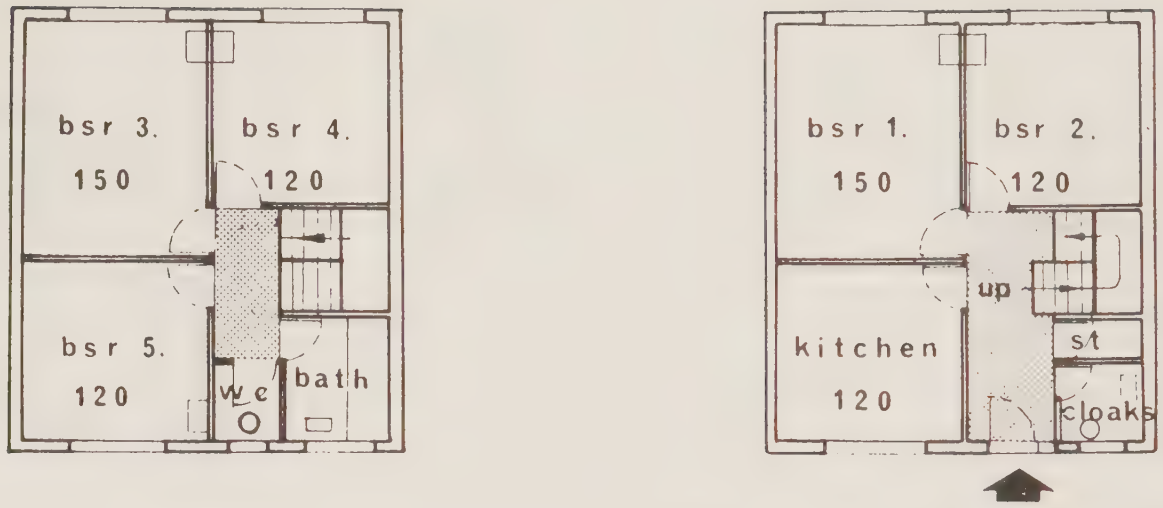
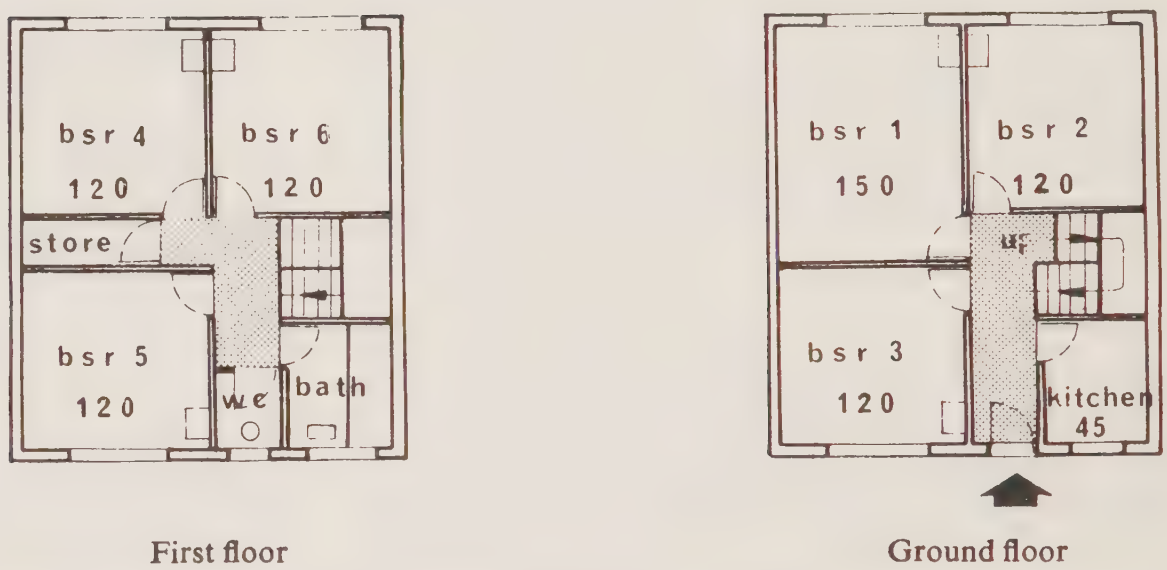


FIGURE 10. Typical floor plan of a multi-storey tower block with four 4-room flats on each floor.



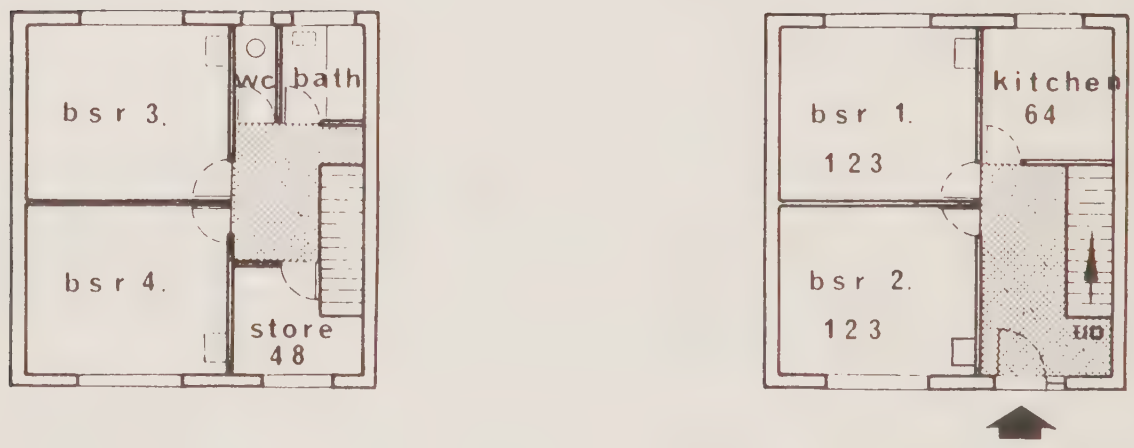
First floor Ground floor

FIGURE 11. A typical 3-bedroom terrace house modified to provide accommodation for 5 persons.



First floor Ground floor

FIGURE 12. A typical 3-bedroom terrace house modified to provide accommodation for 6 persons.



First floor Ground floor

FIGURE 13. A typical 2-bedroom terrace house modified to provide accommodation for 4 persons.

tower blocks. A typical layout is shown in Fig. 7. On the left of the central access is a three-bedroom flat and a one-bedroom flat, and on the right two two-bedroom flats. The flats can be modified as indicated in Fig. 8. Common rooms for students can be provided in place of one or more flats as indicated in Fig. 9. Fig. 10 illustrates a tower block of four three-bedroom flats per floor.

38. On some sites, or for small numbers of staff, or where provision is to be made for staff with children, it may be appropriate to use terrace houses either alone, or with flats (see paragraph 11). Attention should be given to compact distribution of services. Figure 11 shows a house suitáble for five units of Scale A accommodation, or a family. Figure 12 shows a house suitable for 6 units of Scale A accommodation or 5 units of Scale B, but which would not be suitable for a family without adaptation. Figure 13 would be suitable for 4 units of Scale A, or for 3 of Scale B, or for 2 of Scale C.

39. The cost allowances should be calculated as for the other accommodation described in this Note.

Construction and finishes

40. In the main these should be similar to those normally used in local authority flats and houses. Briefly the following is a guide to the standard of specification:

Floor to floor height 8 ft. 4 ins.

Floors between flats should provide Grade 1 sound insulation. (For example, a structural concrete floor with a floating concrete screed and any floor finish, or a floating floor on wood joists, lath and plaster ceiling with 17 lb. per sq. ft. pugging.)

Partitions between rooms should provide 40 dB insulation. (For example, 3 ins. clinker block plastered both sides.) Doors should be solid or semi-solid to provide reasonable sound insulation.

Roofs should have a U value of 0·25.

External walls should have a U value of 0·25 but in no case should it exceed 0·30.

Certain specific improvements have, however, been allowed for in the cost allowance for the reasons given in paragraph 13. These improvements are:

Floor finishes

Quality of doors

Additional plumbing and sanitary fittings

Cupboard fittings

Additional electrical socket outlets.

Centralised space and water heating.

V. Engineering services

41. The engineering recommendations are applicable to the standard flat described in paragraph 29.

42. Housing for residential hospital staff should have heating, hot and cold water, gas, electric lighting and power services on a scale comparable to that provided in similar accommodation in other fields. These services should be of good quality and be designed for economy in maintenance and running costs and also installed to ensure ease of maintenance.

43. Generally it is appropriate for the provision to follow standard modern practice for flats. Guidance is given in the Ministry of Housing and Local Government publication "Homes for Today and Tomorrow".

44. Where the accommodation is sited away from the hospital, water, electricity and gas will normally be direct from the supply authorities' mains; but where the accommodation is within the curtilage of the hospital it may be economic to connect to the hospital mains.

45. Services should be planned so that any conversion of the accommodation from one use to another can be achieved with a minimum of alteration.

46. All the services (heating, water, electricity and gas) should be arranged so that the supply to each basic flat can be cut off. Incoming services should be grouped and their means of isolation conveniently positioned in an accessible cupboard, in or adjoining the basic flat; space will also be required in the cupboard for electricity and gas meters.

47. Facilities should be provided so that the services can at any time be metered centrally. In addition facilities should also be provided for the installation of individual electricity and gas meters for those flats in which the occupants themselves are required to meet the charges.

Safety

48. Notes on safety in dwellings, listing avoidable sources of danger, are given in Appendix No. 4 of the Ministry of Housing and Local Government's publication "Homes for Today and Tomorrow". Special attention should be paid to the points on engineering services, particularly the electrical installation.

49. Fire protection of the building may influence the design of the engineering services, especially ventilation schemes. Due regard should therefore be given to these requirements in the early stages of planning.

Mechanical services

Heating

50. The heating system should be designed for continuous operation and space heating requirements calculated on the following temperatures and ventilation rates with an outside temperature of 30° F:

Accommodation	*Temperature*	*Air changes per hour*
Living-rooms, common rooms, sitting-rooms, visitors' rooms, and warden's office	65° F	2
Bed-sitting rooms	65° F	1½
Bedrooms	55° F	1½
Entrance space	60° F	3
Bathrooms, w.c's, utility rooms, linen rooms, cloakroom and kitchen	60° F	2
Boxroom and cleaners' room	50° F	½
Sick bay	65° F	3

51. The conventional low-pressure hot-water system with panel radiators or convectors is usually most satisfactory. For bed-sitting rooms, bedrooms, living-rooms, sitting-rooms, common rooms and sick bay the system should provide background heating to 55° F supplemented by electric or gas heaters to the temperatures recommended above.

52. One of the advantages of this method is that the supplementary heating can be turned off when the room is unoccupied in the winter, leaving background hot-water central heating; it can also be used on cold summer days when there is no central heating.

53. Individual manual control should be provided for each room in addition to the overall thermostatic control of the heating system.

54. Electric or gas space heaters should be fitted with thermostats; it is also recommended that provision should be made for the heater to be automatically switched off after a predetermined time.

55. Radiators and convectors should normally be placed below windows and against exposed walls, with clear space beneath so as not to impede the use of domestic cleaning machines.

56. Airing cupboards should be heated from the hot-water system.

Ventilation

57. The rooms will be naturally ventilated by windows except for any internal rooms which may be provided. These would require mechanical extract ventilation and be provided with low level inlet grilles.

Hot and cold water services

58. Hot and cold water for baths, showers, basins and sinks will be needed, together with drinking water direct from the supply authorities' mains in kitchens.

59. The storage requirements for cold and hot water for dwellings are given respectively in the B.S.I. Code of Practice "Water Supply" (CP.310) and the Institution of Heating and Ventilating Engineers "Guide to Current Practice". Where these are not applicable cold water storage need not exceed 25 gallons per head and hot water storage capacity should be based on 10 gallons per head for small to medium accommodation, reducing to 8 gallons per head for the larger buildings.

Town gas

60. A gas supply may be required for kitchens and utility rooms.

Refuse collection and disposal

61. Refuse collection and disposal from dwellings will need to be examined in relation to local conditions and collecting methods at an early stage of planning. Mechanical systems of disposal or mechanical aids to collection may have to be considered.

Electrical installation

62. The electrical installation will include wiring and equipment for lighting, socket outlets, heating, ventilating, telephones, clocks, fire alarms, mechanical services and electrical appliances and wiring facilities for television aerial cables and additional telephones.

63. The B.S. Codes of Practice dealing with "Electricity supply intake arrangements", "Electrical wiring system in buildings" and the "Provision of electric lighting in dwellings" should be consulted. Distribution for the basic flat should be from a consumer unit housed in a convenient and accessible place and preferably mounted at eye level.

64. External wiring should be either P.V.C. cables in galvanised screwed conduit or M.I.M.C. cables.

Artificial lighting

65. Recommended average values of illumination (3 ft. above floor level) are as follows:

Accommodation	*Average lumens/sq. ft.*
Bed-sitting rooms, study bedrooms, living-rooms, sitting-rooms, common rooms, visitors' room and warden's office	15
Bedrooms, utility rooms and kitchens	10
Entrance space, bathrooms and w.c's, linen room, laundry reception room, circulation space and staircases	7*
Stores and cleaners' room	5*
Sick bay	See below

* Standard given is required at floor level.

The sick bay should be lighted to the standards recommended for wards in Hospital Building Note No. 4.

66. Lighting should be domestic in character and selected to give a pleasing effect. In addition to a

centre light individual lights for reading and writing may be required for bed-sitting rooms, bedrooms, living-rooms, sitting-rooms and common rooms, but the levels above should not be exceeded.

67. Local lighting, table lamps and bed-head fittings should be separately switched. The lighting of entrances, staircases and landings in blocks of flats should operate automatically by time-switching. Lighting fittings on staircases should be sited for easy cleaning and maintenance.

68. External and road lighting should be controlled by a time switch. External fittings should be weather-proof.

Socket outlets

69. A 13A. ring circuit should be provided in each basic flat. The location of socket outlets is important; for example, where there are two sockets in a room (other than a double) they should be on opposite walls. Sockets should be placed where they are most likely to be needed and not with a view to saving wiring.

70. The following socket outlet distribution is recommended:

Accommodation	*Minimum provision*
Kitchen	4
Living area	3
First (or only double) bedroom ...	2
Other double bedrooms	2
Single bedrooms	2
Entrance space	1
Single bed-sitting rooms	3
Utility room	2
Offices	2

71. Fixed appliances rated up to 13A. may be permanently connected to 13A. fused spur boxes, and appliances whose rating is in excess of 13A. should be permanently connected to separate final sub-circuits and independently switched. Non-luminous heating appliances should be equipped with a neon-type indicating lamp; the light may be in either the appliance or, for permanently connected appliances, in the switch and, for portable appliances, in the plug top.

Telephones

72. A telephone connected to the hospital system should be provided in each block of flats and one will be needed in the office. The provision of telephones for staff "on call" is not allowed for in this Note and is to be regarded as additional engineering.

73. G.P.O. public telephone(s) for general use should be available centrally. Conduits and trunking for telephone cables should be concealed.

Clocks

74. A clock, either independent or on a master system, may be provided in each block of flats and one will be needed in the office.

Television

75. External reception should be provided by a common aerial. A concealed conduit, and an outlet box for each flat, should be provided for the aerial cables.

Incinerators

76. Where it is not practicable to make use of the main hospital incinerator a central incinerator may be preferred to a number of smaller ones.

Fire precautions, fire alarms and fire fighting equipment

77. Recommended fire precautions in flats and maisonettes are to be given in British Standard Code of Practice, CP3: Chapter IV; other B.S. Codes of Practice and the Ministry's Hospital Technical Memorandum No. 16 on Fire Precautions give information on fire alarms and extinguishers. Advice on the fire precautions and fire brigade facilities should be sought from the local fire authority.

Lifts

78. A lift service should be provided in buildings in which the entrance to any dwelling is on the fourth storey or above. In buildings of more than six storeys two lifts should normally be provided.

79. Lifts, including car and landing doors, should be silent in operation. Noise and vibration from the lift machinery should not be transmitted through the building.

80. Where a lift service is provided the British Standard Code of Practice requires each block of flats to have a fire lift with a platform area of not less than $15\frac{1}{2}$ sq. ft. and capable of carrying a load of 1,200 lb. This means in practice an 8-person car.

81. Further information on lifts in flats is given in the Ministry of Housing and Local Government's Design Bulletin No. 3, Part 2.

APPENDIX I

Scales of accommodation related to grades of staff

Examples of grades of staff paying similar board and lodging charges	*Scale of accommodation*
Student nurses	Scale A
Staff nurses, state enrolled nurses, house officers	Scale B
Sisters, senior house officers	Scale C
Deputy and assistant matrons, senior registrars and registrars, junior hospital medical officers	Scale D
Matron, senior hospital medical officers, consultants	Scale E
Married staff with a child or a single person with dependent relatives	Scale F

APPENDIX II

A. Basic accommodation

Scales A, B and C

List of rooms, etc.

Bed-sitting rooms/bedrooms

Bath/shower
W.c.
Kitchen utility

Common rooms/sitting-rooms/living-rooms

Laundry reception
Linen stores
Store rooms
(i) Box room
(ii) Cleaners' cupboard
Cloakroom for visitors
Warden's office
Entrance space and circulation

Scales D, E and F

List of rooms, etc.

Bedrooms
Bathroom
W.c.
Living-room
Dining/kitchen
Stores
Entrance space and circulation

APPENDIX III

Hospital Building Note No. 2.

Residential Accommodation for Staff

Hospital Building Note No. 24

The scales of accommodation and cost allowances are applicable to the provision of residential accommodation for all grades of staff at all types of hospitals. The cost allowances are based on the general principle of providing residential accommodation in the form of low rise flats, similar to those provided by local authorities, suitably adapted to meet the needs of hospital staff.

A. Basic accommodation

Bed-sitting room/bedrooms
Common rooms/sitting-rooms/living-rooms
Baths/showers
W.c.
Kitchen/utility
Laundry reception
Linen rooms
Store rooms (i) Box room
(ii) Cleaners' cupboard
Cloakroom for visitors
Warden's office
Circulation necessary for the above

B. Additional accommodation

Sick bay
Central laundry
Additional warden's office
Gross areas (including internal circulation and common access space)

For the purpose of the provisional cost limit, the approximate gross areas (i.e. including area occupied by internal circulation, internal partitions and access to flats) of the basic accommodation to be provided for each grade of staff may be regarded as follows:

Scale A	
(Student nurses, domestic staff, etc.)	260 square feet
Scale B	
(Staff nurses, house officers, etc.) ..	295 square feet
Scale C	
(Sisters, senior house officers, etc.)	445 square feet
Scale D	
(Deputy and assistant matrons, etc.)	625 square feet
Scale E	
(Matron, consultants, etc.)	890 square feet
Scale F	
(Married staff with one child, etc.)	800 square feet

Basic accommodation. At provisional cost limit stage the schedules of basic accommodation need only list the rooms, etc., to be provided for each type of accommodation. Areas of individual rooms need not be given but the gross areas of each type of basic accommodation should be shown. At final cost limit stage the areas of rooms, etc., should be listed in detail as measured from the sketch drawings.

Additional accommodation. At provisional cost limit stage the individual areas of rooms, spaces, etc., should be detailed with an allowance of 33% for internal circulation and common access. At final cost limit stage the areas of rooms, spaces and the associated internal circulation and common access should be measured from the sketch drawings.

DEPARTMENTAL COST ALLOWANCES

1. Basic accommodation

Functional unit—the unit of accommodation for each person according to his scale.

The cost allowance for basic accommodation is based on the following formula:

For the first 100 points in any scheme	Allow £14,000
For each additional point after the first 100	Allow £125

For the purpose of calculating the cost allowance for a scheme the following scale of points is to be used:

For each unit of Scale A accommodation	Allow 7 points
For each unit of Scale B accommodation	Allow 8 points
For each unit of Scale C accommodation	Allow 11½ points
For each unit of Scale D accommodation	Allow 16½ points
For each unit of Scale E accommodation	Allow 21 points
For each unit of Scale F accommodation	Allow 19½ points
For every 3 garages (see para. 15 of Building Note) ..	Allow 4 points

2. Additional accommodation

Allow £3.25 per square foot.

Notes:

(i) *Engineering*

The following engineering services account for approximately 17–18 per cent of items (1) and (2) above:

Heating, Hot, cold and drinking water } excluding calorifier or boiler

Electric light, power (including consumer's control units) and wiring for mechanical services and electric appliances.

Gas.

Telephones (one instrument per block of accommodation plus one in the office) and conduit riser with entry to all flats.

Clocks (one to each entrance space and one in the office), fire alarms

Conduit and outlet boxes for television aerial cables.

(ii) *Engineering supplies*

The cost of bringing heating and hot and cold water mains, electrical and gas supplies to the point of entry into the building has been excluded from the cost allowances. This work will be treated as external works.

(iii) *Engineering equipment*

Equipment such as cookers, refrigerators and laundry equipment will depend on the size and content of each scheme and the policy adopted by the Hospital Board in relation to renting and catering. This equipment is not included in the cost allowances and should therefore be treated as Group II A equipment (i.e., equipment supplied by the hospital authority and fixed by the general contractor) and an appropriate adjustment should be made to the costs recommended in Equipment Note No. 7 to allow for this provision. The costs of fixing and connecting up cookers and refrigerators are included in the cost allowances for basic accommodation. The costs of fixing and connecting up laundry and other equipment may be claimed as "additional engineering". Advantage should be taken of any bulk purchase arrangements available to the hospital authority to provide this equipment.

(iv) *Engineering costs*

The cost allowances include for all Group I equipment listed in Equipment Note No. 7. They do not include for drainage beyond the external face of external walls or for any site levelling. These items will be treated as external works. Lighting fittings for communications areas, e.g. entrances to blocks of flats, staircases, landings, etc. are included in the cost allowance but for all other areas lighting fittings should be regarded as Group IIA equipment.

(v) *Height of buildings*

The cost allowances are intended to cover the cost of providing residential staff accommodation in buildings not exceeding three storeys in height. Where the exigencies of a site necessitate the use of high rise buildings individual cost allowances for these high buildings will be agreed with the Ministry at the provisional cost limit stage.

(vi) *Hardstanding for car parks*

The provision of hardstanding for car parks should be treated as external works.

(vii) *Contract procedure*

It is recommended that the provision of staff accommodation be treated as ordinary housing work carried out by contractors specialising in this work. The possibility of arranging for the staff accommodation to be built at an early stage in the development or re-development of a site should be considered.

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